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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,641	04/02/2004	Curtis G. Neason	066243-0236 (141210)	2877

33679 7590 04/20/2007

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EXAMINER	
WEATHERBY, ELLSWORTH	
ART UNIT	**PAPER NUMBER**
3768	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/816,641	NEASON, CURTIS G.	
	Examiner	Art Unit	
	Ellsworth Weatherby	3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,25 and 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17, 25 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/02/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 1-10 and 25 have been considered but are moot in view of the new ground(s) of rejection. Hu et al. '043 in view of Ben-Haim '199 teach all the limitations of the claimed invention except for correlating a physician comment with the position of a probe. However, Avinash et al. '787, disclosed in the non-final rejection mailed on 10/11/2006, teaches correlating comments on images. The examiner contends that simultaneously illustrating an image of the heart with a physician comment correlated to a respective position of the probe does not render the invention of the Applicant patentably distinct over Hu et al. '043 in view of Ben-Haim '199 and further in view of Avinash et al. '787.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-17 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al. (USPN 6,408,043) in view of Ben-Haim (USPN 5,391,199), and further in view of Avinash et al. (PGPUB 2004/0122787).

Regarding claims 1-9, and 25-26, Hu et al. '043 teaches volumetric computed tomography for cardiac imaging including a system for communicating the image data over any suitable network, such as the Internet (col. 10, lines 16-29).

Hu et al. '043 also teaches a data processing system configured to be communicatively coupled to one or more internal medical imaging systems and the network (figure 4, ref. 1010); A display communicatively coupled to the data processing system and configured to display a three dimensional image of the heart (cols. 4-5, lines 66-67 & 1-14); and a service facility on the network that provides remote monitoring, remote system control, immediate file access from remote locations, remote file storage and archiving, thereby allowing an image of the heart to be produced over a network (col. 9, lines 4-10).

Hu et al. '043 does not teach gathering electrical and positional information using a probe that is communicatively coupled to the data processing system.

Hu et al. '043 also does not teach displaying an image of the heart with the physician comment correlated to a respective position of the probe.

Hu et al. '043 also does not teach storing the image data on a data storage system coupled to the network before the one or more probes are positioned inside the heart. Hu et al. '043 also does not teach storing data over a wireless network.

Hu et al. '043 also does not teach generating a report that comprises the electrical information and the position information sensed by the probe and the image acquired by the internal medical imaging system.

Ben-Haim '199 teaches an intra-cardiac probe that encompasses four aspects: the first is intended to process locating information; the second processes sensed electrical information; the third integrates previously processed information; and the fourth processes the integrated information to generate a topographical map of the sensed variable (col. 5, lines 15-21). Ben-Haim '199 further teaches: A basic image that is recorded at the beginning of the procedure to allow determination of the cardiac chamber anatomy and of the positions of reference catheters in the heart. This image is used thereafter as the basic source of information to describe the heart chamber anatomy (col. 15, lines 3-5). Ben-Haim '199 also teaches that the electrophysiological signal processor will acquire electrical information from intra-cardiac electrograms (col. 6, lines 9-11). Ben-Haim '199 further teaches that the output device will use a computer screen or a holographic imaging unit that will be updated on a beat-by-beat base. The output will include the following information: superimposed on the basic image the position of the catheter will be represented as a symbol on the ventricular wall. The activation maps will be plotted and overlaid on the same image (col. 9, lines 32-38).

Hu et al. '043 in view of Ben-Haim '199 does not expressly teach simultaneously illustrating a three dimensional image of the heart with a physician comment correlated to a respective position of the probe. Hu et al. '043 in view of Ben-Haim '199 also does not expressly teach storing data over a wireless network.

Avinash et al. '787 teaches simultaneously illustrating images in a user-desired format with annotations, marking or labels [0083]. Avinash et al. '787 also teaches an

enhanced computer-assisted medical data processing system where data is linked between interfaces on any suitable network including a wireless network (0058).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Hu et al. '043 in view of Ben-Haim '199 with Avinash et al. '787. The motivation to modify Hu et al. '043 with Ben-Haim '199 and Avinash et al. '787 would have been to provide a system that facilitates information sharing amongst physicians and further includes electrical activation mapping to help study the dynamics of the chamber morphology as a function of the cardiac cycle, as taught by Ben-Haim '199 (col. 9, lines 32-38).

Regarding claims 10-17, Hu et al. '043 teaches volumetric computed tomography for cardiac imaging including a system for communicating the image data over any suitable network, such as the Internet (col. 10, lines 16-29). Hu et al. '043 further teaches a processor for processing image data acquired from the internal medical imaging system where the processor is configured to be communicatively coupled over a network to a file server or some other data storage medium for storing image data files (col. 12, lines 21-42); A display that is communicatively coupled to the data processing system and configured to display an image of the heart (cols. 4-5, lines 66-67 & 1-14); A service system or file server on the network that provides remote monitoring and immediate file access from remote locations, thus allowing cardiac imaging by retrieval of the cardiac data from the file server by way of the network (col. 9, lines 4-10). Hu et al. '042 also teaches acquiring several data sets corresponding to

different phases of the heart and communicating the data to a remote service facility over a network (col. 15, lines 18-23).

Hu et al. '043 does not teach gathering electrical and position information using an intra-cardiac probe that is communicatively coupled to the processor that is configured to process the electrical and position information.

Hu et al. '043 also does not teach displaying an image of the heart with the physician comment correlated to a respective position of the probe.

Hu et al. '043 also does not teach acquiring imaging data from the internal medical imaging system before the one or more probes is positioned inside the heart, and wherein after the image data from the intra-cardiac probe is acquired it is stored on the file server. Hu et al. '043 also does not teach storing data over a wireless network.

Hu et al. '043 also does not teach generating a report which comprises the electrical information and the position information sensed by the probe and the image acquired by the internal medical imaging system.

Hu et al. '043 also does not expressly teach that the processor is used to process the position information from the probes to create a structural map of the heart.

Ben-Haim '199 teaches an intra-cardiac probe that is configured to be positioned in heart (abstract). Ben-Haim '199 also teaches a location and image processor that identifies the location of chamber boundaries using the methods of edge enhancement and edge detection, catheter locations relative to the chamber boundaries, and the dynamics of chamber morphology as a function of the cardiac cycle (col. 5, lines 41-47). The probe also acquires electrical information from intra-cardiac electrograms (col. 6,

lines 9-11). Ben-Haim '199 further teaches, as noted above, acquiring and saving image data with an internal medical imaging system to establish a "basic image" before the probe is positioned inside the heart (col. 15, lines 3-5). Ben-Haim '199 also teaches generating a report that comprises electrical information, position information and the image (col. 9, lines 32-38).

Hu et al. '043 in view of Ben-Haim '199 does not expressly teach simultaneously illustrating a three dimensional image of the heart with a physician comment correlated to a respective position of the probe. Hu et al. '043 in view of Ben-Haim '199 also does not expressly teach storing data over a wireless network.

Avinash et al. '787 teaches simultaneously illustrating images in a user-desired format with annotations, marking or labels [0083]. Avinash et al. '787 also teaches an enhanced computer-assisted medical data processing system where data is linked between interfaces on any suitable network including a wireless network (0058).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Hu et al. '043 in view of Ben-Haim '199 and Avinash et al. '787. The motivation to modify Hu et al. '043 in view of Ben-Haim '199 and Avinash et al. '787 would have been to provide a system that facilitates information sharing amongst physicians and further includes electrical activation mapping to help study the dynamics of the chamber morphology as a function of the cardiac cycle, as taught by Ben-Haim '199 (col. 9, lines 32-38).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellsworth Weatherby whose telephone number is (571) 272-2248. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eleni Mantis-Mercader can be reached on (571) 272-4740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EW

Eleni Mantis Mercader
SPE 3768